Amendments to the Specification:

Page 1, for the paragraph entitled "Cross Reference to Related Applications", please substitute the following paragraph:

--Applicants claim priority under 35 U.S.C. §119 of German Application Nos. 103 08 249.2 and 10 2004 009 066.1 filed February 25, 2003 and February 23, 2004, respectively.--

Page 2, for the first full paragraph, please substitute the following paragraph:

--Particularly in the field of single-photon and multi-photon microscopy, there is a need for laser systems that are both high-performance and spectrally variable, which are inexpensive and easy to operate. Until now, femtosecond light pulses having a high performance in the laboratory were usually generated by means of titanium-sapphire laser systems. It is a disadvantage of these systems that they are very expensive, complicated to adjust, and difficult to handle. Also, the ~~through-tunability of the optical spectrum~~ spectral tunability of the generated light pulses is not satisfactory in such laser systems.--

Page 3, please substitute the following paragraph:

--For example, a device for generating tunable light pulses is previously known from EP 1 118 904 A1. This device works with a special non-linear optical fiber. By means of this fiber, the optical spectrum of femtosecond light pulses that are provided by a suitable pulsed laser light source can be modified, in targeted manner, taking advantage of solitonic effects. To vary the spectrum of the generated light pulses, the intensity of the light coupled into the non-linear optical fiber is varied in the system described in the cited reference. This approach directly results in the disadvantage that in the previously known system, the desired optical spectrum of the generated light pulses is dependent on the pulse energy. An independent variation of the pulse energy and the wavelength of the light pulses is therefore not possible, using the previously known system. Another disadvantage is that in the previously known system, the non-linear fiber used must have a length of several 10 m, so that the desired solitonic optical effects become active to a sufficient degree. Because of the long ~~running~~ traveling distance, an undesirable loss of coherence of the generated light pulses can occur.--

Page 6, for the first full paragraph, please substitute the following paragraph:

--It is practical if the optical compressor of the device according to the invention is configured to be adjustable, so that the ~~temporal frequency progression~~ chirp of the light pulses coupled into the non-linear optical fiber is changeable. This arrangement makes it possible, in convenient and simple manner, to tune the generated light pulses to the desired wavelengths, in that the adjustable elements of the optical compressor, such as prisms or optical ~~lattices~~ gratings, are adjusted in suitable manner.--

Pages 9-10, for the paragraph bridging pages 9 and 10, please substitute the following paragraph:

--In the structure schematically shown in FIG. 1, a pulsed laser light source 1 is provided, which emits femtosecond light pulses having a pulse energy of more than one nanojoule. It is advantageous if the laser light source is a completely fiber-based system that is composed of a commercially available pulsed fiber laser and an optical pumped amplifier fiber that follows the laser. The use of conventional free-beam lasers as

laser light source 1 is also possible, however. The ~~temporal progression~~ chirp of the light pulses emitted by laser light source 1 is ~~predetermined~~ adjusted, in targeted manner, by means of a prism compressor 2. In the exemplary embodiment shown, the light pulses run through the prism arrangement twice, for this purpose. The double arrow indicates that one of the prisms of the compressor is adjustable, in order to thereby be able to tune the generated light pulses, according to the invention. Prism compressor 2 is followed by a non-linear, dispersion-shifted and polarization-maintaining optical fiber 3, into which the light is coupled by means of a lens 4. The light pulses coupled into fiber 3 have a wavelength that essentially corresponds to the zero dispersion wavelength of optical fiber 3. Because of the non-linear solitonic effects that occur in fiber 3, the optical spectrum of the light pulses is severely modified. The light pulses that exit from optical fiber 3, which are coupled out by means of another lens 5, have an optical spectrum that is sensitively dependent on the "chirp" predetermined by means of compressor 2. By means of adjusting the corresponding prism in compressor 2, the light pulses that exit from fiber 3 can be adjusted in the wavelength range between 1.1 µm and 2.0 µm. As described above, the optical spectrum of the light pulses at the output of fiber 3 has two separate components, which are shifted

towards the long-wave and the short-wave spectrum range, respectively, as compared with the wavelength of the light pulse that was coupled in. An adjustable spectral separation of the two components by more than 100 THz can be achieved using the structure shown. Even though a short non-linear optical fiber 3, which can have a length of ≤ 10 cm, is sufficient, according to the invention, the light pulses run apart, dispersively, within fiber 3. This dispersion can be compensated by means of an additional prism compressor 6. When using SF10 glass prisms, tunable light pulses having a pulse duration of ≤ 25 femtoseconds were implemented, using the structure shown in the drawing. To characterize the light pulses, a FROG structure or a spectrometer 7 is provided.--

Pages 10-11, for the paragraph bridging pages 10 and 11, please substitute the following paragraph:

--It should be pointed out that according to the invention, other dispersive optical components besides prism compressor 2 can also be used for a targeted adjustment of the ~~"chirps"~~ chirp of the light pulses coupled into fiber 3, such as lattice compressors, so-called "chirped" mirrors, fiber Bregg ~~lattices~~